

1.5 BHP - Shell Exploration 26/9/78 to 15/9/84

Exploration within the relinquished portion of E.L. 12/78 has centred on regional studies and target definition. No interesting areas have been highlighted during this period. Work has involved stream sediment sampling, rock chip sampling, regional mapping, aeromagnetic coverage and lineament studies. Two reconnaissance soil sampling grids have been placed over the Wolfram Creek magnetic anomaly and on granite hosted Sn-in-soil anomaly. The work completed by BHP and Shell/BHP is summarized in Tables 2 and 3 respectively.

2.0 REGIONAL GEOLOGY

Mathinna Bed sediments form the dominant rock-type in the Scamander Area (Plan D/LHO2/527 R). The occurrence of monograptid fossils in Wrinklers Creek suggests a Silvro-Devonian age (Groves, 1972). The sediments consist of a bedded sequence of sandstones, siltstones and shales which display sedimentary structures - graded bedding, load casts, small scale lunate current ripple cross stratification, upper phase plane bedding - characteristic of deep water turbidite flysch deposits. No carbonates have been recognized in the succession. Bedding in the Scamander area generally trends NW and youngs and dips to the SW.

The Mathinna Beds were deformed during the Middle Devonian Tabberabberan Orogeny. All the sediments are folded and the siltstones and shales cleaved. Folds trend NW and plunge gently to the SE. They are dominated by large amplitude folds (wavelengths of 3 to 4 km.) (Groves, 1972) with superimposed folds of smaller wavelength. Major faults and shears trend NW and NE.

The Mathinna Bed sediments are passively intruded by granitoids of the Blue Tier Batholith in the Upper Devonian. Devonian granitoids range in type from clinopyroxene/